

papers in the section on structure and chemical modification examine topics including iodo-chitins, enzymic production of oligomers, as well as structural studies using NMR and X-ray analysis. Binding ability, production of gels, foam enhancing properties and rheology of aqueous chitosan systems are amongst the subjects addressed in the section on physical chemistry and functional properties. The final two sections represent over one third of the book and consist of various applications in medicine, biotechnology and other fields. These applications are extremely diverse, encompassing areas such as flocculation, immobilisation and encapsulation, production of beads, fibres and contact lenses, and applications as seed coatings or for controlled release of pharmaceuticals.

The contributions appear to have been reproduced by camera-ready copy since typeset and quality of print, figures and tables vary from paper to paper. The presentation and content of the papers are variable as might be expected, but my major criticism of the book is the poor subject index which runs to just five pages with just over 450 entries. A two-page index of contributors is also provided, but I feel that this could justifiably have been sacrificed for a more comprehensive subject index. The size of the book, diversity of topics covered and inadequacy of the index means that the differing needs and interests of many readers will only be met by extensive browsing through the papers.

The large number of contributors from diverse fields is a testimony to the increasing interest in fundamental and applied aspects of chitin and chitosan science. The book should appeal not only to those scientists engaged in fundamental research on chitin and chitosan but also to industrialists and academics interested in exploiting the diverse range of applications for these polymers.

**P. E. Cook**

**Muscle and Meat Biochemistry.** By A. M. Pearson & R. B. Young. Academic Press, New York, 1989. ISBN 0-12-548055-5. ix + 457 pp. Price: US\$52.50.

This book on muscle, which will be mainly of interest to those concerned with its transformation to meat, is a review of published work in 12 key areas. These are covered in separate chapters as follows: composition and structure; muscle cell differentiation and growth; proteins of the thick filament; proteins of the thin filament; proteins of the myofibrils; sarcoplasmic reticulum; contraction and rigor mortis; skeletal muscle growth and protein metabolism; skeletal muscle fibre types; cardiac and smooth muscle; sarcoplasmic proteins; and connective tissue proteins.

Finally there is a chapter on postmortem changes during the conversion of muscle to meat.

The book will be useful as a teaching text for meat science courses at advanced undergraduate and postgraduate levels and for those wishing for a review of the literature in key areas of muscle biology. Useful reference lists are given at the end of each chapter and the book is well illustrated.

**J. D. Wood**

**Developments in Dairy Chemistry 4—Functional Milk Proteins.** Edited by P. F. Fox. Elsevier Applied Science Publishers, London, 1989. ISBN 1-85166-368-1. x + 383 pp. Price: £55.00.

Volumes 1, 2 and 3 in this series dealt with milk proteins, lipids, lactose and minor constituents. While Vol. 1 was devoted to milk proteins with some chapters on functional aspects, it was considered that the increasing importance of protein based dairy products merited more in-depth coverage, which is the objective of Vol. 4.

The editor has, indeed, assembled contributions from some of the major names in the field of chemistry and functionality of proteins, such as De Wit, Kinsella and Morr, to produce an excellent volume. The first chapter, written by the editor, is an extremely comprehensive and compact review of the chemistry of the milk protein system. The manufacture, physical properties and uses of casein and whey protein products are reviewed separately over six chapters in a most comprehensive manner. A further chapter attempts to relate the functional properties of milk proteins to their structure, and the final chapter describes the potential for chemical and enzymatic modification of milk proteins.

All chapters are well referenced and contain a good balance of basic chemistry and physics with technological and practical aspects. An immense amount of information is presented in 383 pages and it is probably the only book dedicated to this subject. The book should be of great interest to students and teachers of food science and technology as well as personnel in the dairy and related food industries. My only complaint is the poor reproduction of the photographs.

**A. S. Grandison**